#### FROG HABITATS

- There are over 5,000 species of frogs. They live all over the world except Antarctica and Greenland.

  Some live on the **tundra** north of the Arctic Circle!\*
- Most frogs live in warm, wet areas, like rainforests. They need to keep their skin moist and these environments are perfect for them.
- In North America, you can often find frogs in creeks and ponds. They can bury themselves in mud or leaves or find cracks in logs to *hibernate*.
- Some frogs and toads live in **arid** climates, like **deserts**. They dig deep in the dirt or sand to stay moist. Their slimy **mucus** can harden to protect them from getting too dry.



**SCIENCE**FRIDAY

\* Image source: National Parks Service.

# FROGS & TOADS

- 1. Frogs often have moist, slimy, smooth skin. That skin is *permeable*, so frogs are sensitive to water loss and absorb environmental pollution.
- Toads often have drier, warty skin, but they need moisture too. Like all frogs, they drink and breathe through their skin.
- Both frogs and toads breed and lay their eggs in water. Toads lay eggs in long chains, sometimes attached to grass or sticks.
- 4. Frogs lay eggs in large round clusters or clumps near the water's surface.

All toads are frogs, but not all frogs are toads.





### FROG COLORING

- Many species of frogs and toads have colorings that match their surroundings. This camouflage helps them hide from predators.
- Some frogs and toads are poisonous or unpleasant tasting. Their skin color may be brightly colored to deter predators.
- Frogs may have **flash markings**—bright markings on their thighs—that startle predators when they jump and move.
- Frogs and toads may also have stripes along their backs, brightly colored bellies, blotches and spots, or eye masks. These markings help people identify different species.





# FROG BODY SHAPES

- Frogs come in many sizes, from the size of your fingertip to the size of a small cat! The size of an adult frog is important in identifying it.
- A frog **snout** (nose) can be rounded (shown) or pointed. They also have two nostrils on the top of their head by the mouth.
- Some frogs have parotoid glands on their back, neck, or shoulders. These glands secrete a toxin to deter predators.
- Toads tend to have broader bodies, with back legs that are shorter than their bodies (shown). Frogs tend to have slimmer, longer bodies and legs longer than their head and body combined.





FROG HANDS & FEET

Arboreal frogs that live in trees often have wide sticky toe pads or disks on long fingers that can wrap around branches and vegetation.

 Aquatic frogs that live in the water often have webbing between the toes, most often on their back feet to help them swim.

Terrestrial frogs that live on the ground or that burrow have strong fingers and rough, bumpy feet that help them dig and crawl.

Some frogs have highly specialized claws or clawlike toes. Others have spades—small, sharp bonelike protrusions on their back feet— that help with digging.





EYES, EARS, MOUTHS

- 1. Frog **pupils** come in 7 shapes! Horizontal slits are the most common. **Iris** color differs too. We don't yet know how these differences affect eyesight.
- A frog's bulging eyes on top of their heads help them see in front, to the sides, and behind them. They may be horizontally placed or upturned.
- Frog ears are very different from ours. On the outside, they have the **tympanum**, which is a bit like our eardrum. The size varies by species.
- Many frogs have tiny teeth along the top jaw. The number of teeth varies by species. Some frogs also have tooth-like bumps on the bottom jaw too to help them catch prey. Toads have no teeth.





# FROG CALLS

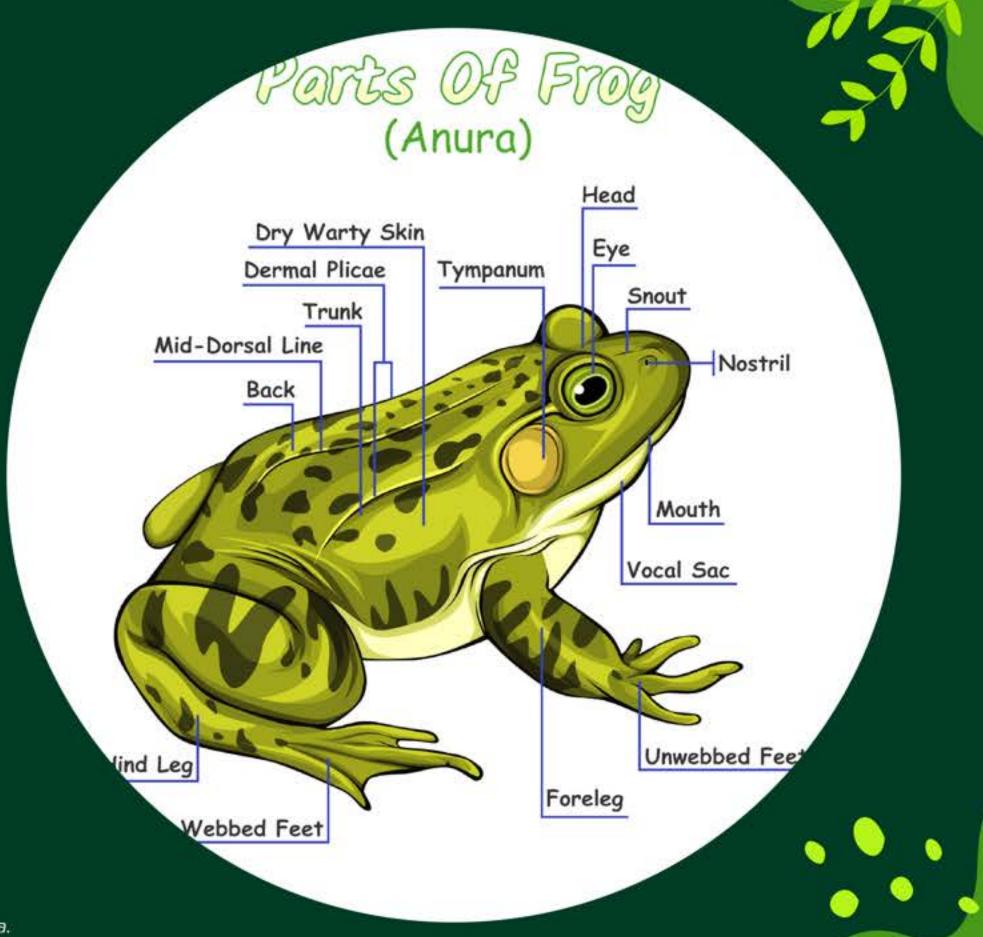
- 1. Frogs have a variety of sounds they can make. These *calls* indicate distress when there is danger or advertise a desire for a mate.
- Frogs have a flexible membrane called a vocal sac that amplifies the sounds of their call, making it louder and travel further.
- Frogs take in air through their nostrils and mouths into their lungs, then push the air back out over **vocal cords** that vibrate. \*
- 4. Every frog species has unique calls. Most often males call at night to find a female. Females listen and follow the sound. You can learn what frogs live near you by learning their calls.

\* From Gerhardt HC and Huber F (2002) Acoustic Communication in Insects and Anurans. Chicago, IL: University of Chicago Press.



### **DESIGN A FROG**

- Select a habitat for your frog. Where does it live? What is the climate like? How will they have access to water and food?
- What will the **body** of your frog be like? Does it need to swim, climb, or burrow? How does its body help it do those things?
- What coloring, markings, or other **external features** will your frog have? How will these features help your frog survive and thrive?
- Create a sketch or **model** of your frog. Consider its body type, legs, feet, eyes, skin, and other features. Show how your frog is **adapted** to its environment. \*





\* Image source: Shutterstock